

1 CLAIMS

I claim:

1. In combination:

an inverted liquid container having upper and lower ends;

5 said lower end of said container having a hollow throat extending downwardly therefrom;

an adapter secured to said throat of said container;

10 said adapter having a central opening which is in fluid communication with the interior of said throat;

said adapter having a first portion thereof which is positioned outwardly of said throat and said central opening;

15 said first portion of said adapter having a vent opening formed therein which is in communication with ambient air;

a valve means normally closing said vent opening;

a hollow cup having upper and lower ends;

said upper end of said cup being secured to said adapter;

said cup having a valve opening formed therein above its lower end;

20 said cup having a central opening formed in its said lower end below said valve opening;

a lift valve, having upper and lower ends, vertically movably mounted on said lower end of said cup which is movable between upper and lower positions;

1 said lift valve having a valve stem which is slidably received by said central opening in
said lower end of said cup;
said valve stem having a closed upper end and an open lower end;
said valve stem having at least one liquid passageway formed therein below its said
5 closed upper end;
a valve on said valve stem of said lift valve which closes said valve opening when said
lift valve is in its said lower position;
said liquid passageway being positioned below said valve opening when said lift valve
10 is in its said lower position;
said liquid passageway being positioned above said valve opening when said lift valve
is in its said upper position;
a vent actuator operatively secured to said lift valve above said valve opening for
movement therewith;
15 said vent actuator being movable between upper and lower positions;
said valve means closing said vent opening when said vent actuator is in its said lower
position;
said valve means causing said vent opening to be open when said vent actuator is in
20 its said upper position.

2. The combination of claim 1 wherein a spring urges said lift valve towards
its said lower position.

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1 3. The combination of claim 1 wherein said vent actuator includes a first hollow tubular portion which slidably embraces a second tubular portion on said upper end of said lift valve.

5 4. The combination of claim 3 wherein said first tubular portion has inner and outer surfaces and wherein said second tubular portion has an outer surface; said inner surface of said first tubular portion having an inwardly presented shoulder; said outer surface of said second tubular portion having an outwardly presented shoulder.

10 5. The combination of claim 4 wherein said shoulders permit a predetermined amount of upward movement of said lift valve with respect to said vent actuator without said valve means moving out of engagement with said vent opening.

15 6. The combination of claim 5 wherein said outwardly presented shoulder engages said inwardly presented shoulder when said lift valve moves downwardly from its said upper position, to cause said valve means to close said vent opening.

20 7. In combination:
an inverted liquid container having upper and lower ends;
said lower end of said container having a hollow throat extending downwardly therefrom;
an adapter secured to said throat of said container;
said adapter having a central opening which is in fluid communication with the interior of said throat;
said adapter having a first portion thereof which is positioned outwardly of said throat and said central opening;

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1 said first portion of said adapter having a vent opening formed therein which is in
communication with ambient air;
a normally closed valve positioned in said vent opening;
a hollow cup having upper and lower ends;
5 said upper end of said cup being secured to said adapter;
said cup having a valve opening formed therein above its lower end;
said cup having a central opening formed in its said lower end below said valve
opening;
10 a lift valve, having upper and lower ends, vertically movably mounted on said lower
end of said cup which is movable between upper and lower positions;
said lift valve having a valve stem which is slidably received by said central opening in
said lower end of said cup;
15 said valve stem having a closed upper end and an open lower end;
said valve stem having a liquid passageway formed therein below its said closed
upper end;
a valve on said lift valve which closes said valve opening when said lift valve is in its
said lower position;
20 said liquid passageway being positioned below said valve opening when said lift valve
is in its said lower position and which is positioned above said valve opening
when said lift valve is in its said upper position;
a vent actuator operatively secured to said lift valve for movement therewith above
25 said valve opening;

1 said vent actuator being movable between upper and lower positions;

said vent actuator engaging said valve to open said valve when said vent actuator is in
its said upper position.

5 8. The combination of claim 7 wherein a spring urges said lift valve towards
its said lower position.

9. The combination of claim 7 wherein said vent actuator includes a first
hollow tubular portion which slidably embraces a second tubular portion on said upper
end of said lift valve.

10 10. The combination of claim 9 wherein said first tubular portion has inner
and outer surfaces and wherein said second tubular portion has an outer surface; said
inner surface of said first tubular portion having an inwardly presented shoulder; said
outer surface of said second tubular portion having an outwardly presented shoulder.

15 11. The combination of claim 10 wherein said shoulders permit a
predetermined amount of upward movement of said lift valve with respect to said vent
actuator without said valve moving out of closing engagement with said vent opening.

20 12. The combination of claim 11 wherein said outwardly presented shoulder
engages said inwardly presented shoulder when said lift valve moves downwardly
from its said upper position, to cause said valve to close said vent opening.